On the prognostic value of p53 alterations in injection-site associated sarcoma in cats

Summary / Zusammenfassung

Occurrence of alterations of the p53 gene have variously been studied using immunohistochemistry, mutational analysis and loss of heterozygosity (LOH) analysis. Data on the influence of these alterations on clinical outcome base on small numbers of animals and are partly contradictory. The aim of the present retrospective study is to analyze the predictive value of p53 gene alterations in a collective of cats with injection-site associated sarcomas (ISAS) treated with surgery and adjuvant radiotherapy with curative intent.

Tumor tissue blocks from 52 cats with ISAS are available for the study. Clinical outcome data comprise overall survival and progression-free interval. Immunohistochemistry for p53 was performed on tumor tissue arrays using a novel monoclonal and a commercially available polyclonal antibody. In parallel, mutation analysis for exons 5 to 8 of the p53 gene was performed using DNA extracted from the tumor tissue blocks, PCR amplification and direct sequencing. Among cases with amplifiable DNA, six tumours yielded a coding mutation and 34 tumours yielded wild type p53. There was good agreement between immunohistochemical results with the two antibodies (k = 0.865) and substantial agreement (k = 0.61) between immunohistochemistry and mutational status. Survival analysis revealed no significant association between presence of a mutation in the p53 gene, or immunoreactivity for p53, and survival or PFI. In a restricted number of cases with sufficient normal tissue available for comparison a LOH analysis based on eight different single nucleotide polymorphisms of the p53 gene was performed. There was no correlation of LOH with outcome. Taken together, the results indicate that p53 alterations are not predictive of clinical outcome.

Publications / Publikationen


Keywords / Suchbegriffe

p53, immunohistochemistry, mutation analysis, loss of heterozygosity analysis, feline, injection-site associated sarcoma

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